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Fuel Focus

Understanding Gasoline Markets in Canada and Economic Drivers Influencing Prices

Volume 7, Issue 4

March 9, 2012

Canada

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National Overview

Canadian Retail Gasoline Prices Drop by 4 Cents per Litre from Last Week

Canadian average retail gasoline prices decreased from the previous week by 4 cents to $1.27 per litre for the week ending March 6, 2012. Prices are nearly 3 cents per litre higher than last year at this time.

Diesel fuel prices rose by 1 cent to $1.31 per litre, up 6 cents from the same period last year. Furnace oil prices increased by less than 1 cent, ending at $1.22 per litre, an increase of 4 cents from a year ago.

Average retail pump prices across Canada moved downward on lower wholesale gasoline prices, which in turn reflected the decrease in WTI and Brent world crude oil prices.

Recent Developments

- **Asia is the world's largest petroleum consumer**: Asia surpassed North America as the largest petroleum-consuming region in 2008. Asian demand surged nearly 15 million barrels per day from 1980 to 2010, an increase of 146%. North America's petroleum consumption increased 16% between 1980 and 2010. Global petroleum consumption increased 36%, nearly 23 million barrels per day, during the period. Together, the Middle Eastern, Central & South American, and African share of total global oil demand grew from 11% in 1980 to 20% in 2010. European demand for petroleum decreased 5% from 1980 to 2010, while consumption in the former Soviet Union fell 55% in the same period. (Source: U.S. EIA, International Energy Statistics, http://www.eia.gov/todayinenergy/detail.cfm?id=5130)
- **Gasoline and Diesel Sales Up 1% and 7% Respectively**: Motor gasoline sales increased 1% to 40 billion litres in the first eleven months of 2011 compared to the same period in 2010. Diesel fuel sales rose nearly 7% to nearly 28 billion litres, while light fuel oil (furnace oil) increased 6% to 3.1 billion litres in the same time period. (Source: Statistics Canada, http://www.statcan.gc.ca/daily-quotidien/120302/dq120302d-eng.htm)
- **Canadian Crude to the U.S. Gulf of Mexico Coast**: According to Valero Energy Corp. Chief Executive Bill Klesse, crude oil from Canada and U.S. shale production will push light, sweet oil imports out of the U.S. Gulf Coast by 2016. In his webcast presentation to the Bank of America refining conference, Mr. Klesse stated: "Canadian oil is coming to the Gulf Coast and it's going to change this industry tremendously". (Source: Daily Oil Bulletin, March 6, 2012)

Figure 1: Crude Oil and Regular Gasoline Price Comparison (National Average)

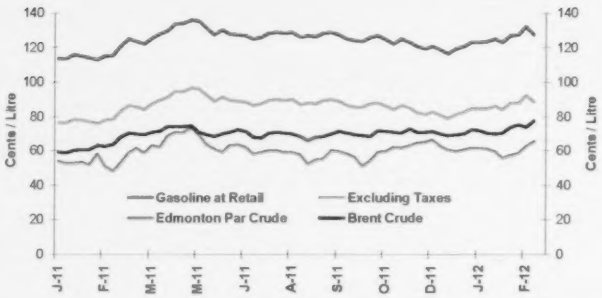
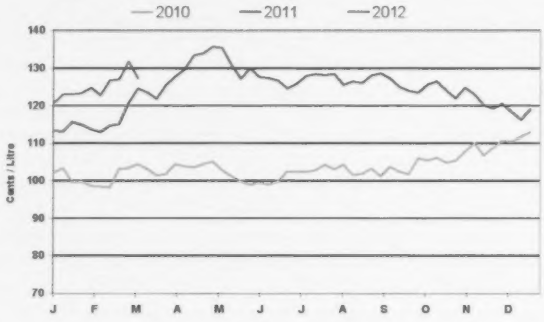


Figure 2: Weekly Regular Gasoline Prices



Changes in Fuel Prices

	Week of:	Change from:	
¢/L	2012-03-06	Previous Week	Last Year
Gasoline	127.3	-4.4	+2.8
Diesel	130.8	+0.8	+6.4
Furnace Oil	122.0	+0.5	+4.1

Source: NRCan

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Retail Gasoline Overview

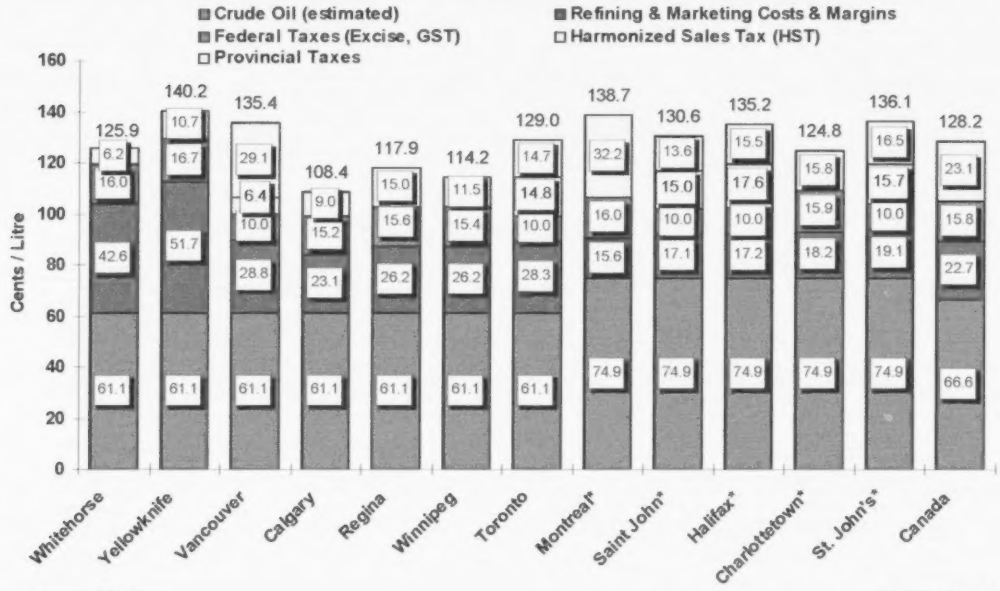
For the period ending March 6, 2012, the **four-week average** regular gasoline pump price in selected cities across Canada was $1.28 per litre, an increase of 3 cents per litre compared to the previous report of February 24, 2012. Compared to the same period in 2011, the average Canadian pump price is 10 cents per litre higher.

The **four-week average** crude component increased by 3 cents per litre to 67 cents per litre compared to two weeks ago.

Retail gasoline prices in most Western centres increased by 4 cents per litre when compared to the previous report and ranged from $1.08 per litre to $1.35 per litre. Prices in Eastern cities increased by 3 cents per litre and ranged from $1.25 per litre to $1.36 per litre.

At the national level, refining and marketing costs and margins registered a decrease of less than 1 cent per litre to 23 cents per litre compared to the last report two weeks ago.

Figure 3: Regular Gasoline Pump Prices in Selected Cities
Four-Week Average (February 14 to March 6, 2012)



Source: NRCan

** Regulated Markets*

Drop in U.S. Gasoline Consumption

According to a recent ARC Energy commentary newsletter, there has been a sharp reduction in U.S. gasoline consumption by 389,000 barrels per day since the end of last year. The assessment of the decrease in gasoline demand suggests that Americans are perhaps driving less as crude oil prices rise, pushing retail gasoline prices up. However, other factors may be involved, such as better vehicle fuel economy, transportation substitution (cycling, public transportation, and electric vehicles), the recession and unemployment, forcing people to drive less.

Another interpretation, according to ARC Energy, is that the growing trend in telecommunication technologies, the rise in social media among the 30+ age group, and choosing to work and socialize online rather than commuting by car in the traditional way, all contribute to the decline in gasoline demand. However, ARC Energy concludes that, although the data indicate a decline in gasoline consumption, it is less clear as to what is causing the magnitude of the drop.

Source: ARC Energy, February 20, 2012

Wholesale Gasoline Prices

For the **week ending March 1, 2012**, wholesale gasoline prices decreased in all Canadian and American centres compared to the previous week—an indication that crude oil prices are being reflected in wholesale prices.

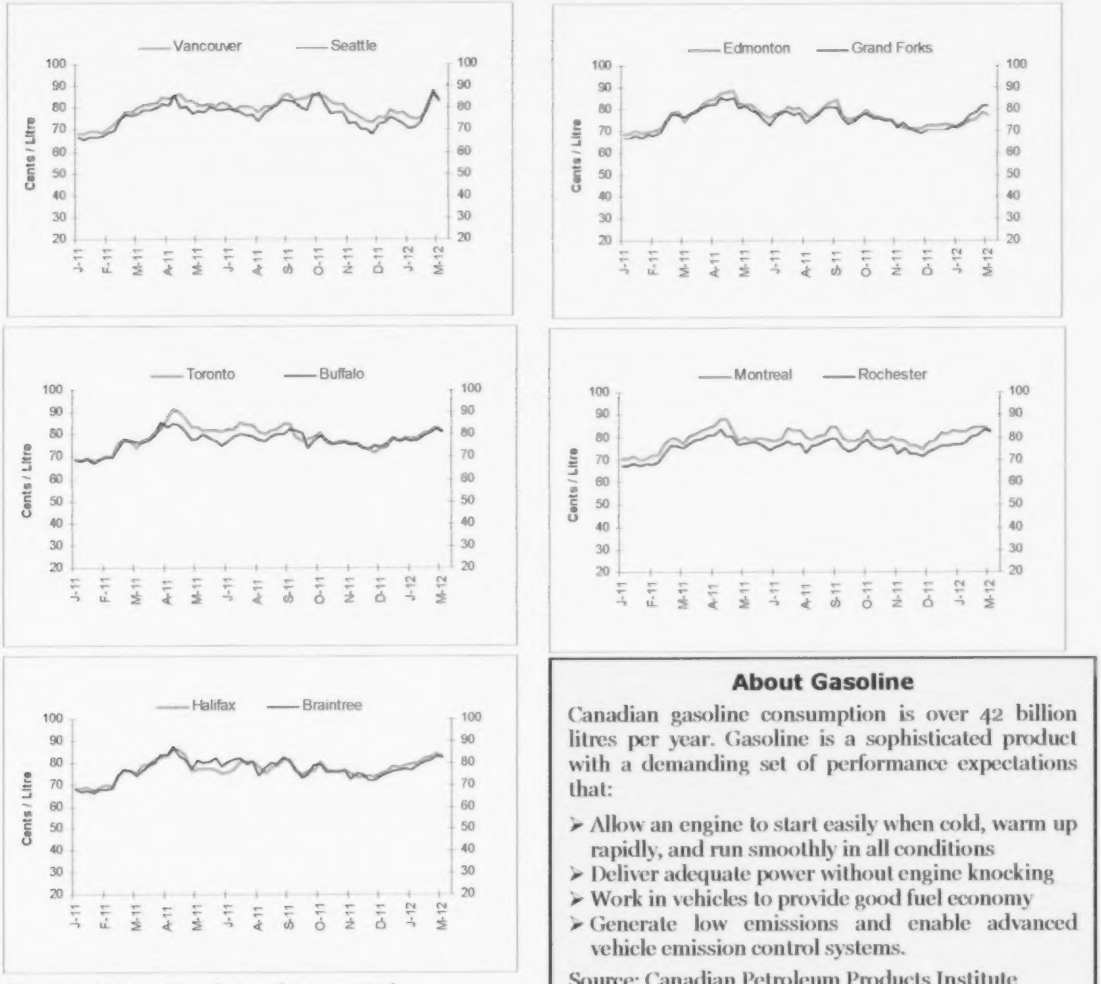
Wholesale gasoline price changes ranged from a decrease of less than 1 to almost 5 cents per litre, ending in the 77 to 84 cent-per-litre range.

In the Eastern markets of Canada and the U.S., wholesale gasoline prices, compared to the previous week, registered decreases ranging from less than 1 to more than 2 cents per litre. Prices for the period ended in the 81 to 83 cent-per-litre range.

Wholesale gasoline prices in Western centres decreased in the range of less than 1 cent per litre to more than 4 cents per litre and ended in the 77 to 84 cent-per-litre range.

In the **last four weeks**, wholesale prices in most selected Canadian and American centres have increased in the range of 3 to 12 cents per litre.

Figure 4: Wholesale Gasoline Prices
Rack Terminal Prices for Selected Canadian and American Cities Ending March 1, 2012
(Can ¢/L)



Sources: NRCan, Bloomberg Oil Buyers Guide

About Gasoline

Canadian gasoline consumption is over 42 billion litres per year. Gasoline is a sophisticated product with a demanding set of performance expectations that:

- Allow an engine to start easily when cold, warm up rapidly, and run smoothly in all conditions
- Deliver adequate power without engine knocking
- Work in vehicles to provide good fuel economy
- Generate low emissions and enable advanced vehicle emission control systems.

Source: Canadian Petroleum Products Institute

Gasoline Refining and Marketing Margins

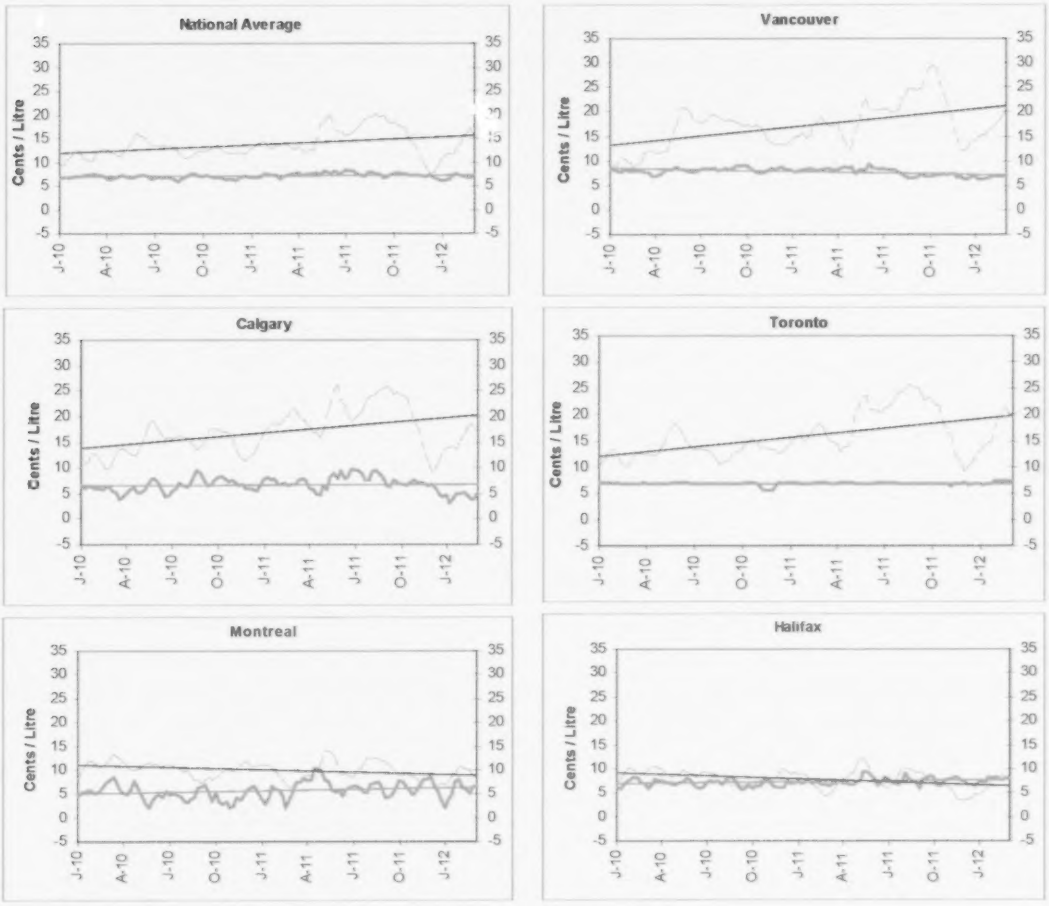
Four-week rolling averages are used for gasoline refining and marketing margins.

Gasoline refining margins have been trending upwards in the last few weeks. This reflects the fact that wholesale prices have been increasing faster than crude oil prices. Compared to last year, margins in Canada are currently about 2 cents per litre higher.

Overall, marketing margins hovered at around 7 cents per litre. For the five centres, marketing margins ranged from a low of 5 cents per litre in Calgary to a high of 8 cents per litre in Halifax.

Changes range from a decrease of less than 1 cent per litre to an increase of nearly 2 cents per litre compared to two weeks ago.

Figure 5: Gasoline Refining and Marketing Margins
Four-Week Rolling Average Ending March 6, 2012
------- Refining Margin —— Marketing Margin



Source: NRCan

Crude Oil Overview

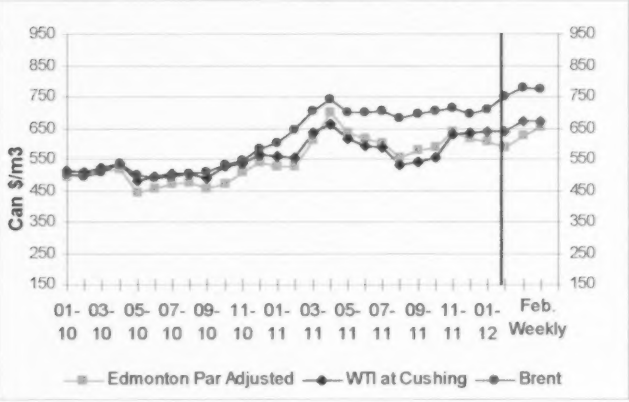
World Oil Prices Influenced by Economic Prospects and Political Tensions

For the week ending March 2, 2012, prices for the three marker crudes averaged between $650/m^3$ and $775/m^3$, (US$104 to US$124 per barrel). This is a decrease of $3 to $2/m^3$ (less than US$1 barrel) for WTI and Brent, respectively, from the previous week. Edmonton Par increased by $28/m^3$ (US$5 per barrel).

After rising steadily since the beginning of the year, WTI and Brent world crude oil prices eased slightly during the week under review. Uncertainties in energy markets remain despite signs of economic recovery in the U.S., namely increased consumer confidence and home sales.

Brent crude oil prices were partly buoyed on positive economic reports from China and the U.S., which highlights a potential increase in oil demand. In addition, tensions around the Iranian nuclear program add a premium to crude oil prices, given that a potential conflict would further tighten oil supply.

Figure 6: Crude Oil Price Comparisons



Changes in Crude Oil Prices

Crude Oil Types	Week Ending: 2012-03-02		Change From:			
			Previous Week		Last Year	
	$Can/$ m^3	$US/ bbl	$Can/$ m^3	$US/ bbl	$Can/$ m^3	$US/ bbl
Edmonton Par	650.44	104.38	+27.80	+5.10	+72.37	+9.97
WTI	670.25	107.54	-2.75	+0.36	+51.59	+6.51
Brent	775.13	124.37	-2.35	+0.41	+72.03	+9.56

Source: NRCan

Reduction in U.S. Northeast Refinery Activity

Since September 2011, two refineries in the Philadelphia area and one major Caribbean export refinery supplying the East Coast have closed. In addition, Sunoco has announced plans to idle its remaining Philadelphia-area refinery (Sunoco Philadelphia) in July 2012 if no buyer is found. The three Philadelphia-area refineries taken together represented 50% of total East Coast refining capacity as of August 2011.

Refining capacity is available outside of the East Coast to replace products historically supplied by the capacity that has been or may be idled, including potential production losses from the Sunoco Philadelphia refinery, but transportation constraints may hinder the delivery of products to the Northeast in the short term. Ultra-low sulfur diesel fuel will be the most challenging product to replace as there are few alternative supply sources outside of the U.S. Gulf Coast. Transportation constraints may also hamper the movement of all replacement products through Pennsylvania and into western New York, areas currently supplied by pipelines originating in the Philadelphia area refinery complex. The industry may not be able to overcome all of the logistical challenges in the Northeast for a year or more, as infrastructure changes will be necessary to accommodate the changing product flows.

Source: EIA, Reductions in Northeast Refining Activity: Potential Implications for Petroleum Product Markets, http://www.eia.gov/analysis/petroleum/nerefining/update/

How Differences Between North American and Global Crude Oil Prices Affect Canadian Gasoline Markets

The Fuel Focus Issue 19 of October 7, 2011, discussed how the choice of crude oil price used affects the calculated gasoline refining margin. This issue reviews the impact of the growing disconnect between prices for landlocked crudes, (such as West Texas Intermediate (WTI), and Canadian crudes, such as Edmonton Par) versus globally traded crude oils such as Brent. In particular, we examine the implications for Canadian gasoline markets.

Historically, the benchmark prices for Edmonton Par, WTI and Brent were closely linked, and price differences (or differentials) between these crudes were minimal. For example, in 2008, both Edmonton Par and Brent prices averaged US$98 per barrel, while WTI averaged $99.64. Market events such as refinery or pipeline outages would periodically cause price differentials, but these were usually eliminated within months.

The WTI price represents a crude type sold at Cushing, Oklahoma. Edmonton Par prices track WTI, as both crudes are of similar quality and are sold into the same geographic market area. In late 2010 and into 2011, crude oil inventories began to build at Cushing, reflecting increased oil supply (particularly from Alberta), and stagnant oil demand at Cushing. This excess oil could not easily be transported out of the Cushing area, due to pipeline bottlenecks. This situation caused softening in WTI and Edmonton Par prices.

In contrast, the conflict in Libya led to a reduction in global oil supply delivered by tanker ship from Libya. This, combined with strong global demand for oil to be delivered by ship (in particular, demand in Asia) resulted in upward price pressure on all globally traded, ship-borne crudes, such as Brent.

The combination of these factors resulted in Brent prices averaging $128 per barrel in October 2011, while WTI was $100, and Edmonton Par was $99. Stated another way, WTI traded at a $28 per barrel discount to Brent, and Edmonton Par at a $29 per barrel discount to Brent. The level of discount has varied since but remains significant, and the difference between the price of North American and global crudes appears to be more structural than differentials in the past.

Edmonton Par, WTI, and Brent are all high quality, light sweet crudes. Western Canada produces more heavy crudes than light crudes, with Western Canada Select (WCS) being a typical heavy crude blend. Heavy crudes always sell at a discount to light crudes, as they are more difficult to refine into petroleum products. Typically WCS sells at a $10 to $20 per barrel discount to WTI. This WCS/WTI discount varies, depending on refinery outages and how much refinery capacity is available to process heavy crudes at any particular time (not all refineries can process heavy crudes).

WCS was trading at a US$38 discount relative to WTI on February 9, 2012. While $10-$20 of this discount could be attributed to the difference in oil grades, the remaining $18 - $28 reflects pipeline bottlenecks from Western Canada. Given growing Canadian heavy crude production, Canadian producers do not have sufficient pipeline capacity connecting to heavy crude-capable refinery markets. This is driving bigger discounts between WCS and WTI.

The above situations have implications for Canadian oil producers, refiners and consumers. Note that Fuel Focus reports do not track individual Canadian refinery crude purchases. Different refineries purchase different proportions of light and heavy crude feedstocks, and pay varying prices for crudes of different qualities. However, in general, all Canadian refineries from Montreal eastwards purchase crude feedstock at prices influenced by Brent prices, while refineries west of Montreal are mainly paying for oil feedstock at prices more closely linked to Edmonton Par prices.

For the week ending February 3, 2012, Edmonton Par crude prices averaged Cdn$89 per barrel (Cdn$0.57 per litre), while Brent prices averaged Cdn$112 per barrel (Cdn$0.70 per litre). This difference in crude feedstock costs partly explains why gasoline prices are lower in western Canada. For example, in Edmonton for the week ending February 2, 2012, gasoline averaged $1.06 per litre, while prices in Charlottetown were $1.22 per litre (Note that provincial gasoline taxes in Charlottetown are also $0.07 per litre higher than in Edmonton). As shown on Figure 3 of the Fuel Focus report, retail pump prices tend to be significantly higher, on average, for eastern centres (Toronto to St. John's) compared to western centres (Vancouver to Winnipeg).